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# PURE and APPLIED CHEMISTRY

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Abbreviations:	CIDEP	= chemically induced dynamic electron polarization
	ESE	= electron spin echo
	EPR	= electron paramagnetic resonance
	ESEEM	= electron spin echo envelope modulations
	ENDOR	= electron nuclear double resonance
	ISMAR	= International Society of Magnetic Resonance

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**R. W. Matthews**

- 1285 Photocatalytic oxidation of organic contaminants in water: An aid to environmental preservation

**R. D. Miller**, M. Baier, A. F. Diaz, E. J. Ginsburg and G. M. Wallraff

- 1291 The electronic structure of high molecular weight substituted silane polymers in solution: Fluorescence quenching studies

- |  |      |   |
|--|------|---|
| A. A. Lin, C.-F. Chu, W.-Y. Huang<br>and A. Reiser   | 1299 | Reactant preordering in solid photopolymers   |
| I. Saito   | 1305 | Photochemistry of highly organized bio-<br>molecules: Sequence-selective photoreaction<br>of DNA  |
| A. Vogler and H. Nikol   | 1311 | Photochemistry and photophysics of co-<br>ordination compounds of the main group<br>metals  |
| M. R. Wasielewski, M. P. O'Neil,<br>D. Gosztola, M. P. Niemczyk<br>and W. A. Svec                    | 1319 | Ultrafast photoinduced electron transfer reac-<br>tions in supramolecular arrays: From charge<br>separation and storage to molecular switches |
| D. Andrew, D. J. Hastings,<br>D. L. Oldroyd, A. Rudolph,<br>A. C. Weedon, D. F. Wong and<br>B. Zhang | 1327 | Triplet 1,4-biradical intermediates in the<br>photocycloaddition reactions of enones and<br>N-acylindoles with alkenes                        |
| U. P. Wild, S. Bernet, B. Kohler<br>and A. Renn  | 1335 | From supramolecular photochemistry to the<br>molecular computer   |

***IUPAC Recommendations on Nomenclature and Symbols and Technical Reports from Commissions***

- |   |      |   |
|---|------|---|
| Commission on Photochemistry<br>(K. Tokumaru, J. D. Coyle,<br>J. H. Penn, E. D. Cox, T. W. Ebbesen,<br>H. D. Burrows, A. C. Cardoso,<br>M. G. Miguel, S. J. Formosinho,<br>S. Hirayama, M. Kawahigashi,<br>I. Kamiya, M. Sasaki,<br>K. Nakamura, E. Fanghänel and<br>S. Yanagida) | 1343 | A collection of experiments for teaching<br>photochemistry (Technical Report) |
|---|------|---|

## OCTOBER

***Plenary lectures presented at the 29th International Conference on Coordination Chemistry held in Lausanne, Switzerland: 19–24 July 1992***

- |  |      |   |
|--|------|---|
| F. A. Cotton                           | 1383 | The delta bond—an old story with a new twist  |
| J. D. Corbett                          | 1395 | Coordination chemistry in the solid state:<br>Cluster and condensed cluster halides of the<br>early transition metals |
| A. E. Shilov                           | 1409 | Intermediate complexes in chemical and<br>biological nitrogen fixation  |
| A. Shanzer, J. Libman and<br>S. Lifson | 1421 | Multiple weak forces in ion-binding molecules   |

***Invited lectures presented at the Inorganic and Physical Chemistry Section of the 33rd IUPAC Congress held in Budapest, Hungary: 17–22 August 1991***

- |              |      |   |
|--------------|------|---|
| R. van Eldik | 1439 | Pressure as a mechanistic indicator in sub-<br>stitution reactions of metal complexes |
|--------------|------|---|

H. Kuroda	1449	The chemical and photochemical reactions of metal carbonyl cluster compounds on solid surfaces
L. D. Mikheev	1461	Kinetics of charge transfer processes in photochemical lasers
M. J. Pilling	1473	The kinetics and thermodynamics of free radical reactions
S. Speiser	1481	Molecular electronic energy transfer in bichromophoric molecules in solution and in a supersonic jet expansion
I. Hargittai	1489	Space concept in chemistry
I. Dékány	1499	Liquid adsorption and immersionsal wetting on hydrophilic/hydrophobic solid surfaces
L. I. Simándi, T. Barna, Z. Szeverényi and S. Németh	1511	Homogeneous catalytic oxidation of <i>o</i> -substituted anilines with dioxygen in the presence of cobalt and manganese complexes

***IUPAC Recommendations on Nomenclature and Symbols and Technical Reports from Commissions***

Commission on Atomic Weights and Isotopic Abundances	1519	Atomic weights of the elements 1991
Commission on Atomic Weights and Isotopic Abundances (P. de Bièvre and H. S. Peiser)	1535	'Atomic weight': The name, its history, definition, and units
Commission on Thermodynamics (R. N. Goldberg and R. D. Weir)	1545	Conversion of temperatures and thermodynamic properties to the basis of the International Temperature Scale of 1990 (Technical Report)
Commission on Polymer Characterization and Properties (R. G. Gilbert)	1563	Consistent values of rate parameters in free radical polymerization systems (Technical Report)
Commission on Quantities and Units in Clinical Chemistry (G. Féraud)	1569	Quantities and units for metabolic processes as a function of time (IUPAC Recommendations 1992)

**NOVEMBER**

***Plenary and keynote lectures presented at the 7th International Conference on Surface & Colloid Science held in Compiègne, France: 7–13 July 1991***

**Plenary lectures**

J. Klein	1577	Long-ranged surface forces: The structure and dynamics of polymers at interfaces
P. G. de Gennes	1585	Special features of water soluble polymers



**Keynote lectures from Topical Symposia*****Surfactancy and supramolecular self-assemblies (A1)***

K. A. Dawson	1589	Lattice models of amphiphilic assembly
P. Kélicheff and P. Richetti	1603	Direct measurement of interactions in supermolecular fluids and liquid crystals
E. Evans	1611	Entropy-driven swelling of fluid-multimembrane assemblies with underlying colloidal interactions
S. T. Hyde	1617	Interfacial architecture in surfactant-water mixtures: Beyond spheres, cylinders and planes
M. D. Ward	1623	Self-assembly principles in molecular crystals
P. R. Van Tassel, C. Hall, H. T. Davis and A. V. McCormick	1629	Assembly of Xe atoms in a NaA alpha cage: A Monte Carlo simulation

***Characterization and modification of surfaces (A2)***

M. Radmacher, M. Fritz-Stephan and H. E. Gaub	1635	Changes in surface topology of amorphous silicon oxide and mica after ion-milling
M. J. Graham	1641	Recent advances in oxide film characterization

***Wetting and adhesion (A3)***

C. Boiziau	1647	Molecular engineering of the polymer-metal bond
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***Chemical processes on solid surfaces (A4)***

J. B. F. N. Engberts	1653	Catalysis by surfactant aggregates in aqueous solutions
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***Nucleation phenomena (B1)***

J. L. Katz	1661	Homogeneous nucleation theory and experiment: A survey
F. Franks and N. Murase	1667	Nucleation and crystallization in aqueous systems during drying: Theory and practice
G. H. Nancollas	1673	The involvement of calcium phosphates in biological mineralization and demineralization processes

***Aerosols (B2)***

O. Preining	1679	The science of ultrafine aerosols
G. Gouesbet, B. Maheu and G. Gréhan	1685	Particle diagnosis in multiphase media

***Preparation and characterization of colloid particles (B3)***

Y-C. Chen, V. Dimonie and M. S. El-Aasser	1691	Theoretical aspects of developing latex particle morphology
R. H. Ottewill	1697	Experimental methods of particle characterization

- |                 |      |   |
|-----------------|------|---|
| E. Matijević    | 1703 | Monodispersed inorganic colloids: Achievements and problems |
| J. D. F. Ramsay | 1709 | Characteristics of inorganic colloids                       |

#### ***Emulsions and suspensions (B4)***

- |  |      |  |
|--|------|--|
| T. F. Tadros                                     | 1715 | Control of stability/flocculation and rheology of concentrated suspensions             |
| E. Dickinson                                     | 1721 | Interfacial interactions and the stability of oil-in-water emulsions                   |
| V. V. Yaminsky, V. N. Steblin and E. D. Shchukin | 1725 | Viscous interaction between surfaces: Studies by means of a capacitor ultradynamometer |

#### ***Biosurfactants (C1)***

- |                                |      |   |
|--------------------------------|------|---|
| N. Kosaric                     | 1731 | Biosurfactants in industry  |
| A. Fiechter                    | 1739 | Integrated systems for biosurfactant synthesis  |
| S. Schürch, M. Lee and P. Gehr | 1745 | Pulmonary surfactant: Surface properties and function of alveolar and airway surfactant |

#### ***Food colloids (C2)***

- |             |      |   |
|-------------|------|---|
| P. Richmond | 1751 | Food technology and nutrition: Challenges for colloid and interface science |
|-------------|------|---|

#### ***Biological macromolecules (C3)***

- |   |      |   |
|---|------|---|
| J. Chopineau, M. Ollivon, D. Thomas and M-D. Legoy  | 1757 | Enzyme-microenvironment dynamic interactions in microstructured media |
| R. Hilhorst, P. Fijneman, D. Heering, R. B. G. Wolbert, M. Dekker, K. van't Riet and B. H. Bijsterbosch | 1765 | Protein extraction using reversed micelles                            |
| P. Walde, Q. Mao, R. Bru, P. L. Luisi and R. Kuboi  | 1771 | pH artifacts in reverse micellar enzymology: A warning                |

#### ***Interactions between living systems and biomaterials (C4)***

- |                                       |      |   |
|---------------------------------------|------|---|
| J. D. Andrade, V. Hlady and A. P. Wei | 1777 | Adsorption of complex proteins at interfaces        |
| J. Jozefonvicz and M. Jozefowicz      | 1783 | Bioactive specific biomaterials: Present and future |

#### ***IUPAC Recommendations on Nomenclature and Symbols and Technical Reports from Commissions***

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|--|------|--|
| Commission on Polymer Characterization and Properties (M. J. Richardson)                           | 1789 | Characterization of the cure of resins by differential scanning calorimetry (Technical Report)   |
| Commission on Polymer Characterization and Properties (A. Cervenka, D. R. Moore and J. C. Seferis) | 1801 | Intrinsic characterization of continuous fibre thermoplastic composites—II. Pseudo-elastic constants for aromatic polymer composite (APC-2) (Technical Report) |

## DECEMBER

***Plenary and invited lectures presented at the 9th International Conference on Organic Synthesis held in Montréal, Canada: 28 June–2 July 1992***

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|---|------|--|
| G. Stork, D. Hutchinson,<br>M. Okabe, D. Parker,<br>ChoonSup Ra, R. Ribéreau,<br>T. Suzuki and T. Zebovitz    | 1809 | A total synthesis of calcitriol  |
| L. E. Overman, M. M. Abelman,<br>D. J. Kucera, V. D. Tran and<br>D. J. Ricca                                  | 1813 | Palladium-catalyzed polyene cyclizations   |
| I. Paterson   | 1821 | New methods and strategies for the stereo-controlled synthesis of polypropionate-derived natural products  |
| P. Deslongchamps  | 1831 | Transannular Diels-Alder reaction on macrocycles. A general strategy for the synthesis of polycyclic compounds                                   |
| L. Ghosez, C. Genicot and<br>V. Gouverneur  | 1849 | Chiral amides in asymmetric synthesis  |
| J-F. Normant, I. Marek and<br>J-M. Lefrançois   | 1857 | Organobismetallic zinc reagents: Their preparation and use in diastereoselective reactions   |
| B. L. Feringa, B. de Lange,<br>J. F. G. A. Jansen, J. C. de Jong,<br>M. Lubben, W. Faber and<br>E. P. Schudde | 1865 | New approaches in asymmetric synthesis using $\gamma$ -alkoxybutenolides   |
| M. Lautens  | 1873 | New methods for the control of multiple stereocenters  |
| J. Cossy  | 1883 | Regio- and stereo-selective cyclizations. Application to natural products synthesis  |
| K. Narasaka   | 1889 | Chiral reagents for asymmetric construction of carbon frameworks   |
| R. O. Duthaler, A. Hafner,<br>P. L. Alsters, P. Rothe-Streit and<br>G. Rihs                                   | 1897 | Stereoselective transformations mediated by chiral monocyclo-pentadienyl titanium, zirconium, and hafnium complexes                              |
| T. Hayashi and Y. Uozumi  | 1911 | Catalytic asymmetric synthesis of optically active alcohols via hydrosilylation of olefins with a chiral monophosphine-palladium catalyst        |
| Yu. N. Belokoń  | 1917 | Chiral complexes of Ni(II) Cu(II), and Cu(I) as reagents, catalysts and receptors for asymmetric synthesis and chiral recognition of amino acids |
| A. B. Charette, C. Mellon,<br>L. Rouillard and E. Malenfant   | 1925 | Design, synthesis, and applications of new oxygenated chiral auxiliaries   |
| S. M. Roberts   | 1933 | The use of enzymes for the catalysis of key reactions in the synthesis of biologically active natural products and analogues                     |

M. Bhupathy, D. L. Hughes,  
J. S. Amato, J. J. Bergan,  
J. L. Leazer, T. C. Lovelace,  
J. M. McNamara, R.A. Reamer,  
D.R. Sidler, E. J. J. Grabowski,  
P. J. Reider and I. Shinkai

1939 Enzymes and practical asymmetric synthesis

***IUPAC Recommendations on Nomenclature and Symbols and Technical Reports from Commissions***

Commission on Polymer  
Characterization and Properties  
(H. Kondo, T. Tanaka, T. Masuda  
and A. Nakajima)

1945 Aging effects in 16 years on mechanical  
properties of commercial polymers (Technical  
Report)

Commissions on Food  
Chemistry and Oils, Fats and  
Derivatives (J. Kanner and  
I. Rosenthal)

1959 An assessment of lipid oxidation in foods  
(Technical Report)

Commission on Agrochemicals  
(B. Donzel and E. Dorn)

1965 Pesticides report 29: Appraisal of the fate  
of agrochemicals in plants and soil: A cost-  
effective integrated approach (Technical  
Report)

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